

ABSTRACT

A method and apparatus for sampling optical input signal is presented. The apparatus includes a split waveplate for spatially rotating polarization direction of a first portion (for example half, or 50 percent) of the input signal to a first rotated direction and spatially rotating polarization direction of a second portion (for example the other 50 percent) of the input signal to a second rotated direction orthogonal to the first rotated direction. The apparatus further includes a sum frequency generator, for example a PPLN crystal, aligned to the first rotated direction to sample the input signal. The rotation of the two halves of the input signal is achieved using a split half-waveplate.